

## APPARATUS AND METHOD FOR SOLUTION PLASMA SPRAYING

### ABSTRACT

[0041] The apparatus for the thermal spray delivery of a precursor solution comprises a first solution reservoir, a second solution reservoir, singular or multiple atomizing liquid injector(s) disposed in fluid communication with the reservoirs, a flame source configured to direct a spray from the atomizing liquid injector to a substrate, and a thermal control device disposed in thermal communication with the substrate. The method of depositing a precursor solution at a substrate to form a coating comprises maintaining a substrate at a pre-selected temperature, delivering the precursor solution from a reservoir bank, atomizing the precursor solution, injecting the atomized precursor solution into a flame, and directing the flame to the substrate.